

What is and can be the contribution of higher education institutions to development of peripheral regions? Czech-Norwegian research project PERIF

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Abstract: The project titled *The contribution of higher education institutions to strengthen socio-economic development of peripheral regions in Norway and the Czech Republic* (PERIF) funded through the bilateral *Czech-Norwegian Research Programme* attempts to do just that through a study of six regions and an important higher education institution located within each of them.

What role can universities play in regional development? That there is a role for higher education institutions (HEIs) at all is generally taken for granted. Universities are the core creators and disseminators of knowledge, and therefore, in a knowledge-based economy and knowledge-based society they are necessarily important actors in advancing regional development (Harding et al. 2007; Arbo, Benneworth 2007). However, understanding how they can fulfill that role and untangling the dynamics between regions and universities is far less clear, and an exploration into the matter rapidly becomes problematic. At the heart of the problem is complexity. Both regions and universities are complex systems. This is something that scholars of both regional development and higher education understand about their own field of study but can lose sight of when they engage in interdisciplinary study (Pinheiro et al 2015). Regional development scholars tend to 'black box' the multiplicity of missions, objectives and interests at play within the university, leading to advice and prescriptions which are unrealistic or unimplementable at the HEI level. On the other hand, higher education scholars often neglect the regional aspects shaping the university, preferring to focus on internal dynamics, historical path dependencies, and global and national pressures (Pinheiro et al 2012). What is needed is a study that brings together a complex

understanding of both regions and universities in its attempt to provide actionable insights for actors on both sides.

Regions and HEI's in a global knowledge-based economy

The idea of HEIs serving a primary role in their regions can be traced back to the late-19th century with the establishment of land-grant colleges in the USA and civic universities in the UK leading to regionally-based HEIs across Europe from the mid-20th century (Pinheiro et al 2012). Coming into the 21st century, knowledge begins to take on new importance within the political economy (Rooney et al 2008) and this leads to a new conceptualization of how a university might impact the region within which it is situated. The pre-eminence of the concept of a knowledge-based economy and society begins to take shape in the 1990s and is crystallized in the 1996 OECD paper *The Knowledge-based Economy*, which identifies a shift from a production-driven to a knowledge-driven economy. The competitiveness of nations (or regions) is conceived as a consequence of the ability to promote and exploit four types of knowledge –know-what (facts), know-why (scientific knowledge), know-how (skills and capabilities) and know-who (access and networks). The European Union (EU) rather rapidly incorporates this into its new governance architecture by calling for the EU to become “... the most competitive and dynamic knowledge-based economy in the world...” (European Council 2000). A report from 2000 states that “... in the final years of the 20th century we entered a knowledge-based society. Economic and social development will depend essentially on knowledge in its different forms, on the production, acquisition and use of knowledge” (European Commission 2000, 5). Within a decade, the broad push for knowledge that characterized this early-21st century thinking had been greatly refined. Policymakers refocused their emphases on the sort of excellent knowledge that would lead to breakthrough innovations, as those were seen to be the drivers of large economic growth; further, they sought ways to achieve those efficiently without wasting resources (Sorensen et al 2015). A similar trajectory can be seen as regards the role of universities in the regional policy of the EU, as the concept of “smart specialization” has become more central to European innovation, regional and cohesion policies (McCann and Ortega-Argiles 2010). Work on the regions by the OECD (1999, 2007) has become rapidly incorporated into EU policymaking and refined by the idea of “smart specialization”, which promotes an efficient and focused approach to determining what industries and what knowledge should be pursued in particular regions and institutions.

Earlier work on the role of universities within regions included a variety of studies: single-university impact studies, surveys, microeconomic modelling of knowledge-production, and cross-sectional analyses (see Drucker and Goldstein 2007 for a review). Many of these are focused on the direct economic impact of the university and have met with strong criticism due to methodological problems (Brown and Heaney 1997; Siegfried et al. 2007). The university was often depicted as a tool by which to achieve regional aims (Goldstein et al 1995), rather than being understood as an autonomous institution with its own set of drivers. More recent directions, building on the concept of the 'triple-helix' relations between universities, industry and government (Etzkowitz 2008), argue that the integration of universities and their regions require a partnership that is based on all parties understanding each other's drivers (OECD 2007).

Universities have undergone rapid changes in the past decades (Krücken and Kosmützky 2007) and while the governance dynamics are still characterized by multiple models (Maasen and Olsen 2007) there is a trend away from the university as a 'republic of scholars' and towards the market-integrated and loosely-coupled model of the so-called entrepreneurial university (Clark 1998) that may be better characterized as a multiversity (Kerr 1963) due to its fractured organizational structures and variety of missions. The university is further challenged by 'mission stretch' (Enders and deBoer 2009). Pinheiro (2011) characterizes the university as a set of 5 core ambiguities, those of intention, understanding, meaning, history and structure, which capture the complexity of the HEI as an institution form. Nevertheless, we can still identify three basic missions of the university: teaching, research and the third mission which ties the university to the society. From these we can identify four major categories through which the HEI connects to the region: "the contribution of research to regional innovation; the role of teaching and learning in the development of human capital; higher education institutions' contribution to social, cultural and environmental development; and the role of higher education institutions in building regional capacity to act in an increasingly competitive global economy. (OECD 2007)"

Universities can of course play a passive role in regional development, serving as employers, purchasers, real-estate developers, and contributors to the cultural and social environment; however, the theories which link universities to regional development that interest us, require a proactive or strategic role in which the university actively attempts to engage with its region. This is not an easy activity, as an early OECD report from 1999 explains: "Territoriality is an extremely complex and problematic concept for HEIs. Universities, in

particular, exist as autonomous institutions which are often characterised by low levels of local territorial embeddedness, regulation at the national level and preoccupation with international and national academic and research communities” (OECD 1999). The challenge of understanding how universities can contribute to socio-economic development in their region, is thus tightly tied to the concept of multi-level governance (MLG). MLG posits that governance power has spread from the national level both upwards to the supranational level and downwards to the sub-national (Hooghe and Marks 2004), but while this may have expanded the authority of regional or municipal government in some areas, in terms of knowledge policy, it is the universities that have obtained power rather than the regional government actors. The drivers controlling funding and prestige for universities still originate at the national or global levels.

A proactive regional role, however, is not necessarily a ‘regional mission’, as that is a fraught term which may or may not in fact capture the essence of the interaction between the university and its region. Rather, we prefer the broader concept of the third mission of the university, which we define as: *formalized efforts at the central (university) and/or sub-unit level (faculties, departments, etc.) aimed at linking/extending teaching and research activities with/into the regional surroundings – public and private sectors and civil society.*

The case studies

A unique aspect of the PERIF project is its focus on peripheral regions. A clear definition is in order. Peripheral regions are defined by their distance from core regions in both spatial and aspatial dimensions. The spatial dimension deals with the periphery as outside of the major urban centers in terms of physical distance and ease of access, but also regarding structural distance, dealing with population density, predominance of the primary sector of the economy, and a lack of agglomeration advantages. Aspatial distance, on the other hand, is created by factors such as the flow of information from urban cores or global networks, the quality of technological infrastructure, levels of human and social capital, integration with global markets, strength of civil society institutions, etc. (Copus 2001). Selection of the peripheral regions for the study relied on a combination of spatial and aspatial characteristics, but with particular emphasis given to the idea that peripheral regions have weaker potential due to their more limited agglomeration capacity and access to knowledge and information.

Three regions in each country have been selected for the PERIF project. These regions differ in their spatial characteristics but share a weakness in the aspatial characteristics mentioned above. In the Czech Republic the study examines the Ústecký, Vysočina, and Olomoucký regions. The Ústecký region has approximately 825,000 inhabitants and is located in the north-western part of the country bordering with Germany. It is characterized by high unemployment rates (due to unskilled labour), a relatively low proportion of graduates, the lowest percentage of people employed in research in the country, a high proportion of young people, and high risk of social tensions and conflicts, including ethnic and racial. The region is highly urbanized but fractured – over 80 % of the population is living in the 46 cities that make up the region – yet it also contains highly productive agricultural districts focused on hops and fruits and border districts that are remote and sparsely populated. Economically the region is focused on the industries of mining (historically primary but declining) and chemical, glass, automotive, mechanical engineering, textile, and energy. The region has a considerable HEI infrastructure and a rapidly growing number of graduates. The selected institution for detailed study is University of Jan Evangelista Purkyně. Is a medium-sized public university founded in 1991 on the foundation of an independent faculty of teacher training. As of today, it is the largest in the region, has eight faculties and enrolls close to 10,000 students, of which 65.8 % originate from the region.

The Vysočina region is located in the middle of the Czech Republic with approximately 510,000 inhabitants, and is characterized by an above average agricultural profile, high population stability within sparse settlements, and high environmental quality. Economically, a significant proportion of businesses are small, privately (family) owned, and in addition to agriculture there is an emphasis on cultural and tourism industries, but manufacturing is also significant. Within the region are three UNESCO World Heritage sites and two mountain ranges. The region lacks a tertiary education tradition, has the second lowest number of research employees, and has a small HEI infrastructure. The selected case is the College of Polytechnics Jihlava, a new public HEI (founded in 2005) without division into faculties and with a small number of students, 1973 students in 2013, of whom 57.6 % reside in the Vysočina Region.

The Olomoucký region is located in the north-eastern part of the country and has a population of approximately 640,000. The region has two distinct parts, the southern is economically developed with advanced agricultural production, a high share of industry and services, and rather dense population

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in 30 cities. It also has a strong HEI infrastructure and tradition dating back to 1573, with the second oldest research-based university in the country located there along with other HEIs. The northern part of the region is mountainous and remote; it is one of the poorest Czech districts. Economically the manufacturing and construction industries are the strongest employers. The selected institution is Palacký University in Olomouc, which is a traditional research-based university that has seven faculties and 21,722 students, 84.5 % of whom are from the region.

In Norway the study examines the regions of Agder, Telemark and Finnmark. The Agder region is the southernmost in Norway and home to about 285,000 inhabitants, who are mostly located in the largest urban coastal areas. The region hosts three industrial clusters: ICT, process industry, gas and oil manufacturing. Most companies across the region are SMEs and are not very knowledge or research intensive. It also hosts a mid-size public university, University of Agder, that was until 2007 a university college, and which employs about 1000 staff and enrolls 10,000 students.

The Telemark region is located in the south-eastern part of the country and has a population of approximately 170,000, of which more than half are located in the two main municipalities of Skien and Porsgrunn. Telemark has a flourishing bio-technology research environment, and since 2005 is host to an innovation centre for natural gas. The region is home to around 500 industrial firms operating within forestry, metal and natural products. Since the mid-1990s, Telemark University College, a major public-run university college enrolling 6,500 students and with 600 staff has been operating across the region in the form of a multi-campus model with five locations.

The Finnmark region is located in the far North and is home to 74,000 inhabitants, which are sparsely spread. The region shares borders with Finland and Russia, and is home to the Sami minority ethnic group. The local economy is centred on agriculture (fishing and reindeer herding), tourism and, more recently, energy exploration. Most firms are small, family owned businesses. Since the mid-1990s, the region has had a small size university college (1,800 students and 240 staff) that recently merged with the University of Tromsø to become part of the Arctic University of Norway, the largest (and only) comprehensive institution in Northern Norway.

Within the selection of regions and institutions there are numerous cleavages: rural/urban, local focus/global focus, entrepreneurial/Humboltian type of university, regionally embedded/internationally competitive institutional missions, production/natural resource based economies, and high-tech/low-tech industry profiles. These reflect overlapping types of spatial and aspatial

distances, which can be used to draw claims about the more general dynamics of universities and regions than might be possible in a study employing more homogeneous cases.

Objectives and outputs

The overarching objective of the project is to analyze the role of HEIs as critical actors in the regional economic and social development of less developed regions in the Czech Republic and Norway. While evidence shows that HEIs are important in strong, knowledge intensive regions and cities, there is an assumption that universities can improve – even fix – the conditions of any region they operate in. This project, by looking at weaker regions, tests this assumption. It asks how universities can fulfill that role regionally, and if there is a common national or even international model for doing so. The answers require building what we term ‘frames of reference’ for each of the regions, which will then be scaled up to the national and international level.

Case studies for each of the six regions are being developed and will be published together with a comparative study of the needs and expectations of regions that will undertake to explain the commonalities and structurally induced differences in the way regions interrelate with HEIs. The regional studies make use of a broad range of new and pre-existing data and are based on three types of data: 1) content analysis of relevant official documents (state, regional, local) relating to the regional development strategies; 2) secondary analysis of existing basic and applied research results related to the various issues of surveyed regions; and 3) qualitative analysis based on expert interviews and focus groups with regional representatives at various levels.

Simultaneously in-depth studies looking at how the selected HEIs in those regions are aligning their activities, functions and capabilities to the current and perceived needs of the region are being developed. The data sources for the HEI study parallel the data sources for the regions: 1) content analysis of HEIs strategic documents such as long term strategies, annual reports, study programs, proposals of various projects; 2) secondary quantitative analysis of research about students and graduates (e.g. employment of graduates, graduate surveys in the respective HEIs, results of other surveys, etc.); and 3) qualitative analysis based on expert interviews and focus groups with HEIs’ representatives at various levels. Individual cases studies for each of the institutions will also be published in a collected volume.

The broader outputs of the project will take two directions: first, based on a study of the links between the regional studies and the HEI cases, national

frames of reference will be developed for both Norway and the Czech Republic. These will take the form of a matrix of regional needs and possible HEI responses. Building on that work, the two frames of reference will also be compared in an attempt to identify an international frame of reference. The least likely case model of using the Czech Republic and Norway, suggests that any general findings shared between the two may be more broadly generalizable. These findings will be presented as an opportunity for further testing and study.

The second output direction is more applied. The project will develop 'Tool Kits' for each country. These will be methodical guides explaining how to meet the various needs of peripheral regions with the assistance/support of HEIs. These Tool Kits will be reviewed by the HEIs and regional actors and then pilot tested in the regions with groups of key actors.

Summary

The project thus aims to provide both academic and practical advances for the understanding of how HEIs can fulfill a territorial role in their regions. As the less developed nature of these regions highlights, the knowledge-based society does not by itself guarantee distributive justice in terms of social and economic standards of living. Nor does the ease by which knowledge flows necessarily cause it to spread evenly across countries and regions. In fact, in the EU more generally, we find deepening divides as a consequence of regions' differing abilities to capture and exploit knowledge locally. It would appear that an active approach by both HEIs and regions is required in order to determine how they can effectively integrate in mutually beneficial ways that promote competitiveness and social cohesion. The PERIF project aims to provide both theoretical advances and instruments which can assist in that endeavor.

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